



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

cementing that portion as to enable it to withstand the eroding action of the river, when, having subsided to the limits of the "lower bottom," it disintegrated and washed away the unchanged limestone, leaving the preserved portion (upon the further subsidence of the waters to their present bed) no longer an islet, but a mound upon dry land—a monument to the power of the chemical agencies at work in nature's laboratory.

---

### SINK-HOLES IN WABAUNSEE COUNTY.

---

By Joseph Savage.

---

While on a visit to Wabaunsee county during the summer of 1879, my attention was directed to a series of sink-holes which occur near the southern line of the county, some four or five miles northwest of Washara post-office. These sink-holes occupy a space of about four miles in extent from east to west, and a much narrower limit from north to south. They occur upon high prairie, the highest, in fact, in all that region. The surface upon which the sink-holes are situated is quite level, and would make good arable land for cultivation. The sink-holes pass through two rock formations, both of impure limestone. The uppermost formation is about two feet in thickness, while the lower one is four or five feet thick and fifteen or twenty feet below the surface. The sinks pass through both of these strata and the intervening clays, and the subterranean caverns are found below the lower rock formation.

At my request, these sink-holes have been partially explored during the past summer by Mr. S. N. Hills and my brother, Mr. F. Savage. They found the passage-way partially choked up with loose stones, but when fairly down they found a series of caverns of considerable dimensions. The caves were ornamented with numerous stalactites and stalagmites, and one little grotto of columnar structure was so finely scalloped and finished, as to almost if not quite excel in beauty of finish any statuary work of man's device. The apparent beauty of this little grotto was no doubt much enhanced by the dim lantern-light, as well as by the mineral waters constantly dripping over its outer surface. Quite a quantity of loose bones were found in these caverns, showing that they were the frequent habitation of wolves and other wild animals.

The cause of these sink-holes seems to have been in the loose, friable nature of the rock formation which surrounds them, and their surface indications are shown by depressions from forty to eighty feet in diameter; hence, as will be readily seen, the water during heavy rains concentrated and ran into them, causing wet-weather springs along the adjoining drains and ravines.

In a State so richly endowed as we are with thick beds of limestone, one would naturally expect to find numerous sink-holes and openings along our high prairie lands. These openings have been observed in a small way

by the writer in Douglas county, and others of like character are found in Barton county; and it may be presumed that many other counties will contain them, when a more careful scientific survey is instituted.

## LIST OF MINERALS FOUND IN KANSAS.

By B. F. Mudge, A. M.

The monotonous geology of Kansas does not allow a great variety in its minerals. The following list includes nearly all found in the State:

- |                                      |                                 |
|--------------------------------------|---------------------------------|
| 1. Alum.                             | 11. Barytes, or heavy spar.     |
| 2. Common salt.                      | 12. Zinc, or blende.            |
| 3. Glauber's salt, sulphate of soda. | Carbonate, or cerussite.        |
| 4. Epsom salts.                      | Silicate, or calamine.          |
| 5. Nitre                             | 13. Mica.                       |
| 6. Copperas.                         | 14. Feldspar.                   |
| 7. Gypsum, massive.                  | 15. Hornblende.                 |
| Selenite.                            | 16. Spinel, ruby.               |
| Fibrous.                             | 17. Manganese.                  |
| Pearl spar.                          | Dendrites, or forest rock.      |
| Alabaster.                           | 18. Quartz, flint.              |
| 8. Calcite, or calc spar.            | Agate.                          |
| Chalk.                               | Carnelian.                      |
| Oolitic.                             | Chalcedony.                     |
| Satin spar.                          | Jasper.                         |
| Stalagmite.                          | Chert.                          |
| Marl.                                | Amethyst.                       |
| 9. Dolomite or rhomb spar.           | 19. Silver.                     |
| Magnesian limestone.                 | 20. Copper.                     |
| 10. Iron.                            | 21. Lead, galena.               |
| Spathic.                             | 22. Zinc, blende, or blackjack. |
| Pyrites.                             | Calamine.                       |
| Oxid.                                | Cerussite.                      |
| Hematite.                            | 23. Sulphur.                    |

1. Alum is found occasionally in small crystals, in Wabaunsee, Saline, Dickinson, Clay and Republic and some other counties. It is usually associated with gypsum, sulphur, epsom and Glauber's salts, and results from decomposition of shales.

2. Common salt is found in springs and marshes, as can be seen in detail in my article on Geology, in the Kansas Agricultural Report, 1879-80,